Pacific Island Network
Vital Signs Monitoring Plan

Appendix B: Partnership Opportunities

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Pacific Island Network (PACN)

Territory of Guam
War in the Pacific National Historical Park (WAPA)

Commonwealth of the Northern Mariana Islands
American Memorial Park, Saipan (AMME)

Territory of American Samoa
National Park of American Samoa (NPSA)

State of Hawaii
USS Arizona Memorial, Oahu (USAR)
Kalaupapa National Historical Park, Molokai (KALA)
Haleakala National Park, Maui (HALE)
Ala Kahakai National Historic Trail, Hawaii (ALKA)
Puukohola Heiau National Historic Site, Hawaii (PUHE)
Kaloko-Honokohau National Historical Park, Hawaii (KAHO)
Puuhonua o Honaunau National Historical Park, Hawaii (PUHO)
Hawaii Volcanoes National Park, Hawaii (HAVO)

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PARTNERSHIPS

Monitoring of natural resource conditions, or Vital Signs, in the 11 parks of the National Park Service (NPS) that comprise the Pacific Island Network (PACN) will only be possible through multiple partnerships. This appendix to the PACN Monitoring Plan identifies select partnerships and potential partnership opportunities as examples of how Vital Sign monitoring might materialize. As partnerships are at the core of the NPS mission and operational structure, any attempt to identify all partners would certainly neglect some key partners from among the many that exist. A brief summary of partnership efforts in the PACN may also be found at http://www1.nature.nps.gov/im/units/pacn/.

Whether partners are Federal agencies, state or local agencies, universities, community groups or local schools, all are needed to support the monitoring of natural and cultural resources within national parks. Partnerships provide technical specialties needed to complete resource management tasks, foster interagency understanding, promote innovation of new ideas, and provide support when dealing with complex issues. These partnerships are critical to the long-term success of natural and cultural resource management. Table 1 provides a summary of existing partnerships listed by national parks within the Pacific Island Network.

Not identified in the table below are collaborative efforts within the NPS, such as staff and resource sharing between parks, programs, and offices within the state, network, and nation. For example, at the USS Arizona Memorial, the NPS Submerged Resources Center has a long history of partnering with park staff in placing water quality monitoring equipment near the sunken vessel, conducting archeological surveys, and providing technical assistance. This collaboration has greatly expanded the knowledge base of the natural and cultural resources at USAR, their condition, and status and trends.

Table 1. Summary of selected, existing natural resource management partnerships in the PACN.

NPS Unit	Examples of Partners	Partnership Activities
War in the Pacific NHP	Guam Department of Agriculture	Creel surveys with permanent transects in park
	Guam Environmental Protection Agency	Water quality monitoring, especially at sewage outfall in Asan
	University of Guam	Long-term research on resource management strategies
	Guam Bureau of Statistics & Plans	Data gathering, planning
	US Geological Survey	Wildlife, vegetation, geologic, & water resource programs
American Memorial Park	CNMI Department of Land and Natural Resources Division of Fish and Wildlife	Bird monitoring
	Division of Environmental Quality	Water quality monitoring
	CNMI Coastal Resources Management	Water quality monitoring
	University of Guam	Long-term research on resource management strategies
	US Geological Survey	Wildlife, vegetation, geologic, and water resource programs
NP of American Samoa	Department of Marine and Wildlife Resources	Bat, bird, sea turtle, brown roof rat, and vegetation surveys
	Oregon State University	Phase 1 section on invasive species for the Forest Inventory and Analysis Program
	Asian Institute of Technology, School of Environment, Resources, & Development	Forest monitoring plots
	University of Hawaii	Several projects, including fishery and coral reef surveys
	American Samoa Environmental Protection Agency	Water quality monitoring in stream and coastal areas
USS Arizona Memorial	US Navy	Land and harbor owner
Kalaupapa NHP	State of Hawaii Department of Land and Natural Resources	Natural area management
	State of Hawaii Department of Health	Maintaining community operations
	The Nature Conservancy, Hawaii Chapter	Natural area management
	University of Hawaii	Long-term research on resource management strategies
	Hawaii Biodiversity & Mapping Program	Long-term research on resource management strategies
	US Geological Survey	Long-term research on resource management strategies
	East Molokai Watershed Program	

NPS Unit	Examples of Partners	Partnership Activities
Haleakala NP	State of Hawaii Department of Land and Natural Resources	Seabird and forest bird monitoring
	The Nature Conservancy, Hawaii Chapter	Plant and animal monitoring
	US Geological Survey	Long-term research on resource management strategies
	East Maui Watershed Partnership	Public-private partnership for forest & water conservation
	Hawaii Natural Heritage Program	Long-term research on resource management strategies
	Maui Invasive Species Committee	Invasive species issues (detection, rapid response)
	University of Hawaii	Long-term research on resource management strategies
Ala Kahakai NHT	University of Redlands	Documenting natural resources
	Numerous community organizations	Documenting natural resources, advisory capacity
	Landowners	Stakeholders
	Hawaii Biodiversity & Mapping Program	Coastal research/management
Puukohola Heiau NHS	Mauna Kea Soil and Water Conservation District	Watershed management/restoration
	Hawaii Biodiversity & Mapping Program	Coastal research/management
	Royal Court Members	Watershed management/restoration, advisory capacity
Kaloko-Honokohau NHP	National Oceanic and Atmospheric Administration	Sea turtle monitoring
	US Geological Survey	Shoreline, coral reef, and marine research
	Hawaii Preparatory Academy	Sea turtle monitoring
	Ducks Unlimited	Waterbird monitoring
	TREE Center	Native plant restoration
	University of Hawaii	Shoreline, coral reef, and marine research
	Massachusetts Institute of Technology	Anchialine pool research
Puuhonua o Honaunau NHP	Trust for Public Lands	Land conservation
	US Geological Survey	Shoreline, coral reef, and marine research
	University of Hawaii	Shoreline, coral reef, and marine research
	National Oceanic and Atmospheric Administration	Sea turtle monitoring
Hawaii Volcanoes NP	Olaa-Kilauea partnership: • Kulani Correctional Facility • Kamehameha Schools • The Nature Conservancy, Hawaii Chapter • State of Hawaii Department of Land and Natural Resources • US Fish & Wildlife Service	Overall goals include enhancing long-term survival of native plant communities and natural processes, maintaining a healthy forest ecosystem, protecting and managing large contiguous areas across ownership boundaries, and recovering rare and endangered species.

NPS Unit	Examples of Partners	Partnership Activities
	• US Geological Survey – Pacific Island Ecosystems Research Center • USDA Forest Service	
	National Oceanic and Atmospheric Administration	Sea turtle monitoring
	US Geological Survey – Hawaiian Volcano Observatory	Geological research & monitoring
	Hawaii Biodiversity & Mapping Program	Long-term research on resource management strategies
	Big Island Invasive Species Committee	Invasive species issues (detection, rapid response)

POTENTIAL PARTNERS FOR LONG-TERM MONITORING

There are a variety of opportunities for additional and potential partnerships with National Parks in the PACN, each partner offering its own expertise. Below are a variety of entities, with a brief mission statement, that are already working in partnership with units of the PACN or are potential partners for Vital Signs monitoring, dependant on mutual interests and needs.

NETWORK OR REGION-WIDE PARTNERS

WRCC Western Regional Climate Center:

UNEP World Conservation Monitoring Centre: Provides information for policy and action to conserve the living world.

UNESCO MAB (Man and the Biosphere): Develops the link between the natural and social sciences for the sustainable use and conservation of biological diversity, and for the improvement of the relationship between people and the global environment.

- Biosphere Reserve Integrated Monitoring: Undertakes abiotic, biodiversity, socio-economic and integrated monitoring in the World Network of Biosphere Reserves.

The Secretariat of the Pacific Community (SPC): An international organization that works in partnership with its members, organizations and donors to deliver priority work programs to member countries and territories. SPC's work programs aim to develop numerous capacities including technical assistance, professional, scientific and research support, and planning and management capability building. Its vision for the region is that of a secure and prosperous Pacific Community, whose people are healthy and manage their resources in an economically, environmentally and socially sustainable way.

Secretariat of the Pacific Regional Environment Program (SPREP): Has a mandate to promote cooperation in the Pacific islands region and to provide assistance in order to protect and improve the environment and to ensure sustainable development for present and future generations. Encompasses organizations such as the Pacific Island Roundtable for Nature Conservation.

U.S. Geological Survey: Serves the Nation by providing reliable scientific information including: describing and understanding the Earth; minimizing loss of life and property from natural disasters; managing water, biological, energy, and mineral resources; and enhancing and protecting our quality of life.

- Pacific Island Ecosystem Research Center: Expertise in birds, invertebrates, vertebrates, invasive species, and rare plants.
- Hawaiian Volcano Observatory: Expertise in geology, volcanology, and natural hazards.
- Pacific Islands Water Science Center: Expertise in water quality, quantity, and characterization of water resources.
- Western Region Coastal & Marine Geology – Pacific Science Center: Collects information, monitors conditions, and distributes findings about geologic hazards, environmental conditions, habitats, geologic processes, and energy and mineral resources.

- National Wildlife Health Center — Hawaii Field Station: Promotes science-based decisions affecting wildlife and ecosystem health.
- Western Coastal and Marine Geology: Conducts multidisciplinary scientific research in the coastal and offshore areas of California, Oregon, Washington, Alaska, Hawaii, and other US Pacific Islands; and in other waterways of the United States.

U.S. Fish and Wildlife Service: Consists of National Wildlife Refuges and Ecological Services, as well as a support staff specializing in Administration, External Affairs, and Geographical Information Systems, especially of interest for rare, threatened, endangered, or migratory species.

U.S. Department of Agriculture: Provides leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management.

- US Forest Service — Institute of Pacific Islands Forestry: Emphasis on Forest Health Inventory, invasive species, wetlands, and ecosystem function.
- Animal and Plant Health Inspection Service — Wildlife Services: Emphasis on invasive species.
- Natural Resource Conservation Service — Pacific Basin Area: Emphasis on soil and wetland or riparian areas.
- Other USDA agencies that conduct natural resource and stewardship efforts.

National Oceanic & Atmospheric Administration (NOAA)

- National Marine Fisheries Service — Pacific Islands Fisheries Science Center: Administers programs that support the domestic and international conservation and management of living marine resources.
- National Ocean Service — National Marine Sanctuary Program: Protects specially designated areas of the nation's oceans and Great Lakes for their habitats, ecological value, threatened and endangered species, and historic, archeological, recreational and esthetic resources.
- National Ocean Service — Coastal Services Center – Pacific Services Center: Works in partnership with the coastal and ocean management communities of the Pacific, including Hawai`i, American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands, and makes NOAA's products and services available to these communities.
- National Ocean Service — Biogeography Program: Develops and implements a plan to produce comprehensive digital coral-reef ecosystem maps for all U.S. States, Territories, Commonwealths, and freely-associated nations.
- National Weather Service: Pacific Region: Provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.

Hawaii – Pacific Island Cooperative Ecosystem Study Unit / Pacific Cooperative Studies Unit (HPI-CESU): Provides research, technical assistance, and education to federal land management, environmental, and research agencies and their potential partners. The HPI-CESU develops a program of research, technical assistance and education that involves the biological, physical, social, and cultural sciences needed to address resource issues and interdisciplinary

problem solving at multiple scales in an ecosystem context. It also places special emphasis on the working collaboration among federal agencies (National Park Service, Bureau of Land Management, US Geological Survey, US Fish and Wildlife Service, US Forest Service, Natural Resources Conservation Service, and Department of Defense), universities, and their related partner institutions. Some of these educational and related institutions include:

- University of Hawaii (multiple campuses): Provides all qualified people in Hawaii with equal opportunity for high quality college and university education and training. UH provides a comprehensive set of postsecondary educational opportunities, allowing students the flexibility to move within the system to meet individual educational and professional goals. Also advances missions that promote distinctive pathways to excellence, emphasizing instruction, research, and service while fostering a cohesive response to state needs and participation in the global community.
- American Samoa Community College: A Land Grant college which provides post-secondary education opportunities in the liberal arts, teacher training, vocational-technical education and general education to the residents of American Samoa. The three major components of the land grant program are instruction, extension, and research. It strives to harmonize local needs and interests with the national agenda by working closely with the U.S. government agencies, sister Land Grant colleges, regional institutions and local departments and agencies.
- University of Guam: A public Land Grant Institution, it provides higher education programs for the people of Guam and the Western Pacific island communities, including: (1) undergraduate programs that build upon the Western Pacific's unique and varied cultural traditions, and offer career opportunities together with a fundamental liberal arts education, (2) research and graduate programs that are responsive to the specific needs of Guam and other Western Pacific island communities, and contribute to their economic growth and stability, and (3) community service programs that promote intercultural interaction, societal development and personal improvement.
- University of California — Berkeley: Serves society as a center of higher learning, providing long-term societal benefits through transmitting advanced knowledge, discovering new knowledge, and functioning as an active working repository of organized knowledge. That obligation includes undergraduate education, graduate and professional education, research, and other kinds of public service, which are shaped and bounded by the central pervasive mission of discovering and advancing knowledge.
- Bishop Museum: Records, preserves, and tells the stories of Hawai`i and the Pacific, inspiring people to embrace and experience our natural and cultural world.
- National Tropical Botanical Garden: Increases and shares knowledge of tropical flora.
- The Nature Conservancy — Hawaii Chapter: Preserves the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.
- Pacific International Center for High Technology Research: Promotes and develops technology appropriate to the marine and tropical environment of the Asia-Pacific region and assists, facilitates and supports its application through technical services, education, and training.

Hawaii Natural Heritage Program (HINHP): Compiles and maintains detailed, comprehensive information on Hawai`i's rarest biological resources. HINHP's mission is to synthesize, interpret, and distribute this information to a wide set of appropriate users toward making a positive impact on biodiversity protection.

State of Hawaii — Department of Land and Natural Resources

- Division of Forestry and Wildlife: Protects watersheds and natural resources, provides outdoor recreation opportunities, builds a sustainable forest product industry, and provides public information and education.
- Division of Aquatic Resources: Manages, conserves, and restores the state's unique aquatic resources and ecosystems for present and future generations.
- Division of State Parks: Comprised of 52 state parks encompassing nearly 25,000 acres on the 5 major islands. These parks offer varied outdoor recreation and heritage opportunities.

Northern Marianas College: Facilities on Saipan, Tinian, and Rota which offers classes in Liberal Studies, Business, Education, Corrections, Nursing, Film and Television, Sciences, Mathematics and Vocational Education, Social Sciences, and Fine Arts.

Local Schools: Primary through secondary schools have long used NPS units as resources for education. At American Memorial Park, for example, a local high-school prepared a brochure summarizing the resources found in the mangrove wetland that the park protects. These efforts included site visits, field experience, development of interpretive materials (written brochures, posters, and dioramas), and outreach.

- Kamehameha Schools: Land owner works in partnership with a variety of parks in the Hawaiian Islands for resource stewardship.

The Natural Area Partnership Program: Established in 1991 by the Hawaii State Legislature and the Governor authorizing the Department of Land & Natural Resources (DLNR) to "provide state funds for the management of private lands that are dedicated to conservation." Lands and waters that might qualify include areas with intact Hawaiian ecosystems, essential habitat for endangered species, and areas within the protective (P) sub-zone of the Conservation District.

The Sierra Club, Hawaii Chapter: Working to protect and restore remaining native habitat by expanding the state's Natural Area Reserve System, designating additional areas for protection, and enacting legislation to fund fencing, firebreaks, and alien species control within protected areas. This organization also works to prevent continued introduction and spread of alien species in Hawai`i by improving and integrating laws, regulations, and enforcement practices that control alien species.

The Youth Conservation Corps: Program furthers the development and maintenance of the natural resources of the United States by America's youth, and in so doing to prepare them for the ultimate responsibility of maintaining and managing these resources for the American people. Through participation in this program, youth develop an understanding and appreciation of the nation's natural environment and heritage, while parks benefit by accomplishing needed conservation work on park lands.

Tropical Reforestation & Ecosystem Education Center (TREE Center): Focuses on forest conservation through hands-on stewardship, restoration, and education. TREE engages students of all ages to expand their knowledge of the enormous value of the forests in Hawai`i.

The Hawaii Natural History Association (HNHA): Advocates and promotes the discovery, understanding, appreciation, enjoyment, and stewardship of the natural and human history of the National Parks and the Pacific.

PARK-ORIENTED PARTNERS

At present, the number of identified potential partners for individual park-oriented interests is somewhat limited. Because the PACN is a new program and network-based, these entities often take more effort to identify, but they are nonetheless highly valued partners for individual parks.

Friends of Haleakala National Park Inc.: A Hawai`i non-profit corporation dedicated to preserving Haleakala's unique ecosystems, scenic character, and associated Native Hawaiian cultural and spiritual resources. The Friends also provide educational, inspirational, and recreational opportunities compatible with preserving the many natural, cultural, and spiritual resources of Haleakala so as to leave them unimpaired for the enjoyment of future generations.

Kipahulu `Ohana: Dedicated to the cultural sustainability of the Kipahulu `Ahupua`a on Maui, Hawai'i through educational programs which incorporate local, national and international partnerships and projects. They conduct cultural demonstrations, restoration projects, self-sufficiency programs, biological diversity projects and other related endeavors. The Kipahulu `Ohana works to restore the Kipahulu `Ahupua`a as a model of a living, working, self-sustaining Native Hawaiian community circa 1778-1848, including the construction and maintenance of traditional Native Hawaiian agricultural and aquacultural features. The `Ohana also assists in the elimination of alien flora and the reintroduction of native, endemic and Polynesian species, and maintains, increases, and perpetuates a mutually beneficial formal relationship with the National Park Service (Haleakala National Park), State of Hawai`i, Maui County, Sovereign and private entities.

Amy B.H. Greenwell Ethnobotanical Garden: Supports Native Hawaiian cultural traditions of land use and plants and conserves the plant resources of traditional Hawaiian cultural activities. To accomplish this, the garden discovers and shares knowledge of Hawaiian ethnobotany, maintains a repository for native Hawaiian and Polynesian introduced plants, works for native plant conservation, and preserves archeological remnants.

Kona Outdoor Circle (KOC): A community based volunteer organization whose mission is to keep Kona clean, green, and beautiful by protecting, preserving, and enhancing the environment for future generations.

Asian Institute of Technology, School of Environment, Resources, & Development: Established forest monitoring plots at the National Park of American Samoa. These plots now total 10 hectares or more of forest in the park where all the trees have been measured, mapped, and identified.

South Pacific Applied Geoscience Commision (SOPAC): An inter-governmental, regional organization dedicated to providing services to promote sustainable development, particularly applicable to the member countries of Guam and American Samoa.

APPROACH TO PARTNERSHIPS

The PACN anticipates engaging in a variety of partnerships in order to fulfill the mandate of six monitoring goals: (1) Determine status and trends in selected indicators of the condition of park ecosystems to allow managers to make better-informed decisions and to work effectively with other agencies and individuals for the benefit of park resources, (2) Provide early warning of abnormal conditions of selected resources to help develop effective mitigation measures and reduce costs of management, (3) Provide data to better understand the dynamic nature and condition of park ecosystems and to provide reference points for comparisons with other, altered environments, (4) Provide data to meet certain legal and congressional mandates related to natural resource protection and visitor enjoyment, (5) Provide a means of measuring progress towards performance goals, and (6) Provide data to better understand, protect, and manage important resources that share cultural and natural value. We define partnership in broad terms to include formal partnership agreements, as well as cooperative, interagency, and other forms of mutual interest.

The Network will prioritize new partnerships where a broad, network level, mutually beneficial relationship is anticipated. Three priorities for new network partnerships have been established. The Vital Signs identified in Chapter 3 of the PACN Monitoring Plan are the first of these priorities. Refinement and facilitation of a network approach to long-term monitoring is a second area of emphasis for new partnerships, including furthering our capacities in scientific communication and outreach. The third area of emphasis is in fulfillment of the six network monitoring goals.

Where partnership opportunities will further both individual park and network goals, the PACN will work closely with park managers to make use of existing partnerships. The network will only enter into park-specific partnerships after close consultation with the affected park.

Briefly, partnerships will benefit individual parks and outside partner organizations through the collocation of resources (i.e. shared fieldwork) for overlapping resource management and scientific goals, the dissemination of findings for interpretative and outreach programs, and by serving as an interactive storehouse of natural resource information useful to planning, interpretation, maintenance and other divisions within the network parks.